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EXAMINER

QUAN, ELIZABETH S

ART UNIT PAPER NUMBER

1743

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/803,645

Applicant(s)

KUMAR ET AL.

Examiner

Elizabeth Quan

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☒ Claim(s) 1,2,5,13,14,20,23,26,27,34-36,39 and 40 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because the details of the invention are difficult to see and many details are not shown in a comprehensible manner. For instance, FIG. 6 is apparently a cross-sectional view of the device. However, no other figures provide enough detail for FIG. 6 to be a cross-section of. The figures are confusing and provide very little understanding of the invention. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the o-ring, fastening means, ends of base plate in the form of a wedge, protruded portion of the sidewalls of the retaining rim (sidewalls protruding outside and below the retaining rim), and four protrusions of the lid must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 2, 5, 13, 14, 20, 23, 26, 27, 34-36, 39, 40 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous

Art Unit: 1743

claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Referring to claims 2 and 14, the base plate or retaining rim can be any size since the gel can be any size. Referring to claims 5 and 26, the limitation is optional. Referring to claim 13, the base plate can have any possible drain out facility. Referring to claim 20, the "conventional" methods can be any method that is known. Referring to claim 23, base claim 1 already recites the at least one o-ring. Referring to claim 27, the lid can be any size since the assembly can be any size as the gel can be any size. Referring to claims 34 and 36, process limitations do not define over the structural limitations of the apparatus. Referring to claims 35, 39, the claims are directed to use not the structure of the invention. Referring to claim 40, the device can possibly be either transparent or opaque.

4. Claim 26 is objected to because of the following informalities: "grove" should be "groove". Appropriate correction is required.

5. Claim 1 is objected to because of the following informalities: "namely" should be "including". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

Art Unit: 1743

art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not explain the claimed invention. The specification merely repeats the claims, and the drawings do not show the details of the claimed invention. For example, it is unclear how the retaining rim has attached sidewalls. It is unclear how the end of the base plate is formed into a wedge. It is unclear how the lid has protrusions. It is unclear how the sidewalls protrude outside and below the retaining rim. It is unclear how the device is fastened together.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

8. Claims 1-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1 and 27 recite the limitation "the assembly" in the last line. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the connection between the retaining rim and base plate and the connection between the retaining rim and sidewalls.

11. Referring to claim 1, it is unclear how the retaining rim can have attached sidewalls. Is the rim formed in the sidewalls? Does the rim protrude from the sidewalls?

Art Unit: 1743

12. Claim 1 recites the limitation "the gels" in the second line. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 2 recites the limitation "the electrophoresis tray" in the second line. There is insufficient antecedent basis for this limitation in the claim.

14. Referring to claim 3, since materials are to be selected from the group of materials, "comprising" should be "consisting".

15. Claim 5 recites the limitation "the membrane" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

16. Referring to claim 5, how can one end of the base be shaped in the form of a wedge?

17. Referring to claim 6, it is unclear what is meant by a drain-out device to decant the poured solution. Is it referring to solutions poured into the base plate?

18. Referring to claim 7, on what structural element is the hole cut in the center of?

19. Referring to claim 8, it is unclear how a nozzle is attached cut to fit the size of the object of the invention.

20. Referring to claims 17-19, it is confusing that retaining rim has sidewalls and sidewalls of the retaining rim are recited in such a manner

21. Referring to claims 18 and 19, it is unclear how the horizontal plates are always outside the sidewalls.

22. Claims 18 and 19 recite the limitation "the horizontal plate" in various places of the claims. There is insufficient antecedent basis for this limitation in the claim.

23. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a

Art Unit: 1743

gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the connection among groove, retaining rim, and sidewalls.

24. Claims 35, 39 provides for the use of the gel processing and transfer device, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 35, 39 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

25. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

26. Claims 1-40 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by WO

02/071049 to Thakur et al.

Art Unit: 1743

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Referring to claims 1-40, Thakur et al. disclose the same invention with the same specification, drawings, and claims with the exception of minor grammatical changes to claims 7-10 as presented on the amended sheet. Thakur et al. disclose all structural limitations as well as the intended functionalities as recited in the claims of the immediate application. Therefore, Thakur et al. include all the limitations in claims 1-40.

Applicant submitted a Utility Patent Application Transmittal with Rajesh Thakur as the listed first inventor in the immediate application. The Declaration for Patent Application and Power of Attorney in the immediate application lists only Sanjay Kumar and Dhiraj Vyas as the original, first, and joint inventors. WO 02/071049 to Rajesh Thakur, Anil Sood, and Paramvir Singh Ahuja discloses an invention identical to that of the immediate specification with the same specification, drawings, and claims with the exception of minor grammatical changes to claims 7-10 as presented on the amended sheet. Note that none of the inventors of WO 02/071049 are the same as the immediate application. Also note that the immediate application was filed on 3/9/2001, and the WO 02/071049 was filed two days before the immediate application on 3/7/2001.

Art Unit: 1743

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

29. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

30. Claims 1-40 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,217,592 to Jones.

Referring to claims 1-3, 6, 7, 13-15, 20-23, 25, 27, 28, 30, 40, Jones discloses a gel processing and transfer device for processing and transferring gels with minimal handling. The

Art Unit: 1743

device may be transparent to various lights, translucent, opaque, or impermeable to light. The device comprises four separable components including a base plate (11) for holding a plurality of gels (see FIGS. 1-5). The base plate (11) is capable of draining out solution (see FIGS. 1-5). The size of the base plate inherently depends on the size of the gel, as the gel would not be placed onto a base plate that would be too small. The base plate along with the sidewalls and retaining rim are made of synthetic plastics material (see COL. 3, lines 42-47). The base plate (11) has a drain-out device (23), which is in the form of a hole in the center on one side wall of the base plate, to decant the poured solution (see FIGS. 1-5; COL. 4, lines 52-68; COL. 5, lines 1-37).

It is unclear what is the structural relationship between the retaining rim and sidewalls. For examining purposes, the sidewalls form the retaining rims. Jones discloses sidewalls fastened to be base plate (11) by fastening means of integrally forming the sidewalls with the base plate (11) (see FIGS. 1-5). The upper surface of the sidewalls forms the retaining rim upon which the o-ring (14) is held or fixed around (see FIGS. 1-5; COL. 3, lines 51-55). The size of the retaining rim inherently depends on the size of the gel, as the gel would not be placed onto a base plate with its associated retaining rim that would be too small. A lid (10) covers the assembly of base plate (11) and sidewalls with retaining rim (see FIGS. 1-5). The size of the lid inherently depends on the size of the gel, as the gel would not be placed onto a base plate with its associated lid and retaining rim that would be too small. The lid (10) is made of synthetic plastics material (see COL. 3, lines 42-47). The lid rests on the top of the sidewalls of the retaining rim and can be easily covered and removed (see FIGS. 1-5).

Art Unit: 1743

Jones does not explicitly disclose separate sidewalls fastened to the base plate by mechanical fastening means. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Jones to separate the sidewalls from the base plate since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (*Nerwin v. Erlichman*, 168 USPQ 177, 179). Furthermore, forming the sidewalls and base plate integrally and mechanically fastening by metal, plastic, or glass nuts/bolts or clamps separate pieces of sidewalls to the base plate are art-recognized equivalents in securing sidewalls to the base plate.

Referring to claims 4, 16, 17, 29, 33, Jones does not address the thickness of the base plate, lid, or retaining rim or the height of the retaining rim or the thickness of the protrusion. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the thickness of the base plate, lid, or retaining rim or height of the retaining rim or the thickness of the protrusion since it has been held that changing the size without affecting the performance of the device involves only routine skill in the art (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984)) and discovering the optimum or workable range involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Referring to claims 8-12, Jones disclose that base plate (11) is provided with a vacuum port (23) by means of which the vacuum chamber (11) can be connected in known manner to a vacuum pump (see COL. 4, lines 7-10). Jones does not disclose the details of how they are connected in a known manner. However, it is very well known and established to attach a

Art Unit: 1743

plastic, metal, or glass tubing, which fixed with a clamp, to the nozzle at the port of the base plate to provide a controlled supply of vacuum for decanting or draining.

Referring to claims 5, 26, the limitations are optional.

Referring to claims 18 and 19, it is unclear what these claims are reciting. Neither the specification nor drawings disclose the limitations in a comprehensible manner. For examining purposes, “below” is a relative term depending on the frame of reference, such that “below” is any direction perpendicular to the base plate. Jones does not address how far the sidewalls span or how far the retaining rim is from the base plate. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change how far the sidewalls span or how far the retaining rim is from the base plate since it has been held that changing the size without affecting the performance of the device involves only routine skill in the art (*Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984)) and discovering the optimum or workable range involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Referring to claim 24, Jones does not disclose what the o-ring is made of. However, it is very well known to use an elastomeric or polymeric o-ring of silicones and rubbers.

Referring to claim 31, it is very well known to use a plurality of protrusions, four or more, to attach the lid to the retaining rim.

Referring to claim 32, since Jones’s device is made of synthetic plastics, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the protrusions from synthetic plastics as well as a manufacturing expedient.

Art Unit: 1743

Referring to claims 34, 36, process limitations are accorded no patentable weight in device claims.

Referring to claims 35, 39, the Jones's device could be a part of robotic-gel-transfer automation unit or give shape to jelly.

Referring to claim 37, Jones does not disclose whether the device is constructed with autoclavable material. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the device from an autoclavable material such that the device can be sterilized for subsequent uses.

Referring to claim 38, Jones does not disclose that the device is made of metal. However, it would have been obvious to make the device from metal for desired thermal conductivity to perform certain operations.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They include one or more limitations in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Art Unit: 1743

Elizabeth Quan
Examiner
Art Unit 1743

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A handwritten signature in cursive script, reading "Arlen Soderquist". The signature is written in black ink and is positioned above a typed nameplate.

ARLEN SODERQUIST
PRIMARY EXAMINER